



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/538,909 | 07/10/2005 | Yeun Kwon Seo | 114260-014 | 5146 |
| 24573 7590 06/17/2008 BELF., BOYD & LLOYD, LLP P.O. Box 1135 CHICAGO, IL 60690 | | | | |
| EXAMINER | | | | |
| VO, HAI | | | | |
| ART UNIT | | PAPER NUMBER | | |
| 1794 | | | | |
| MAIL DATE | | DELIVERY MODE | | |
| 06/17/2008 | | PAPER | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/538,909

Applicant(s)

SEO, YEUN KWON

Examiner

Hai Vo

Art Unit

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 32-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 32-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SE/US)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

1. The 112 claim rejections are maintained.
2. The indicated allowability of original claim 16 is withdrawn in view of the newly discovered references to Schuster (US 3,664,905), Sweeney (US 5,268,226) and Holmquest et al (US 5,679,432). Rejections based on the newly cited references follow.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 34 is rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. The short fibers with a shape of a truss embedded in the foam layer by interlacing the short fibers through a needle punch is critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976).
5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
6. Claim 35 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. As the short fibers are comprised of a synthetic fiber and a natural fiber, it is unclear that the short fibers and the foamed material could have been made of the same material. It is suggested

that the synthetic fiber and the foamed material made from the same resin material for purpose of clarity.

7. The 112 claim rejections have been maintained because nothing has been discussed in the response to show that Applicant has disagreed with the Examiner on the 112 rejections of claims 12, 13, 30 and 31 made in the 12/18/2007 Office Action. Note that claim 34 is a combination of original claims 12 and 30 and claim 35 is a combination of original claims 13 and 31.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 32-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Luciano et al (US 4,357,386) in view of Frank (US 5,093,967) and Schuster (US 3,664,905). Luciano teaches a composite papermaker felt made up of a needled bottom layer of staple fibers, a base layer 12, a particle foam layer 14 and a needled top layer of staple layer 12 as shown in figure 5. The foam layer includes of discrete polyethylene foam particles (column 3, lines 40-45). The staple fibers are composed of polyolefin fibers and jute fibers (column 3, lines 55-60). The base layer can be a multilayered woven material (column 3, lines 30-33). One of the layers of the multilayered woven material reads on Applicant's

fabric. All of the layers are integrated and consolidated into a single uniform fabric by needling (column 4, lines 1-10, and 20-25). Luciano does not specifically disclose the staple fibers embedded in the foam layer in a shape of a truss. However, it appears that Luciano uses the same need punching to penetrate the fibers into the foam layer as Applicant, therefore, it is not seen that the fibers could not have been embedded in the foam layer in a shape of a truss as set forth in the claims. Luciano does not teach that the polyolefin fiber is a combination of polypropylene fiber and polyethylene fiber. Frank, however, teaches the use of a needle-punched non-woven layer comprising 60-80 wt% polyethylene fibers and 20-40 wt% polypropylene fibers for increasing the adhesion bonding between the fiber layers and a substrate. Frank discloses that the polyethylene fibers are used as low melting point fibers and polypropylene fibers as reinforcing fibers. The polyethylene fibers are molten while leaving the polypropylene fibers unaffected when the material is run through an air thermal bonding oven, providing an improved adhesion strength between the fiber layer and the substrate (column 6, lines 45-65). That is reasonably pertinent to the particular problem with which the applicant was concerned. Applicant uses the fiber layer comprising the low melting point polyethylene fibers in combination with polypropylene fibers for increasing the adhesion strength between the foam and fiber layer. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use polyolefin fibers that are a combination of polypropylene fibers and polyethylene fibers with a mixed ratio

as taught by Frank motivated by the desire to provide an increased adhesion strength between the fiber layer and the foam layer.

Luciano does not teach the papermaking felt further coated with a cement layer. Schuster, however, teaches a web suitable for use as papermakers' felt comprising a plurality of fibrous batts and an adhesive coating to the surface of at least one side of the web (abstract). The adhesive layer reads on the claimed cement layer. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply an adhesive layer to at least one surface of the web motivated by the desire to provide improved adhesion strength between the fibers, thereby increasing the web stability.

Luciano as modified by Frank and Schuster does not specifically disclose the processing steps as set forth in the claims. However, they are product-by-process limitations not as yet shown to produce a patentably distinct article. It is the examiner's position that the article of Luciano/Frank/Schuster is identical to or only slightly different than the claimed article prepared by the method of the claim, because both articles are formed from the same materials, having structural similarity. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or an obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966

(Fed. Cir. 1985). The burden has been shifted to the applicant to show unobvious differences between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289,291 (Fed. Cir. 1983). It is noted that if the applicant intends to rely on Examples in the specification or in a submitted Declaration to show non-obviousness, the applicant should clearly state how the Examples of the present invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with Luciano/Frank/Schuster.

A preamble phrase "an automobile interior material" or "a construction sheet" is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

10. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sweeney (US 5,268,226) in view of Frank (US 5,093,967) and Holmquest et al (US 5,679,432). Sweeney teaches a composite material comprising a foam core, a needle punched non-woven fabric of polypropylene and a coating of a cementitious slurry that is continuous throughout the fibers of the non-woven fabric and the foam core (abstract, figures 2-3). Sweeney discloses the foam core made from expanded polystyrene particles. Sweeney does not specifically disclose the non-woven fabric formed from a combination of polypropylene and

polyethylene fibers. Frank, however, teaches the use of a needle-punched non-woven layer comprising 60-80 wt% polyethylene fibers and 20-40 wt% polypropylene fibers for increasing the adhesion bonding between the fiber layers and a substrate. Frank discloses that the polyethylene fibers are used as low melting point fibers and polypropylene fibers as reinforcing fibers. The polyethylene fibers are molten while leaving the polypropylene fibers unaffected when the material is run through an air thermal bonding oven, providing an improved adhesion strength between the fiber layer and the substrate (column 6, lines 45-65). That is reasonably pertinent to the particular problem with which the applicant was concerned. Applicant uses the fiber layer comprising the low melting point polyethylene fibers in combination with polypropylene fibers for increasing the adhesion strength between the foam and fiber layer. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use polyolefin fibers that are a combination of polypropylene fibers and polyethylene fibers as taught by Frank motivated by the desire to provide increased adhesion strength between the fiber layer and the foam layer.

Sweeney does not specifically teach the composite material comprising a foam core made from expanded polypropylene foam. Holmquest, however, teaches a composite material comprising a foam core and a fiber-reinforced plastic matrix wherein the foam core includes expanded polystyrene foam, expanded polyethylene foam, expanded polypropylene foam. Therefore, it would

have been obvious to one having ordinary skill in the art at the time the invention was made to use expanded polypropylene foam as a foam core of Sweeney because expanded polypropylene foam and expanded polystyrene foam have been shown in the art to be recognized equivalent insulative foam core that is lightweight, high strength and crack resistant.

Sweeney as modified by Frank and Holmquest does not specifically disclose the processing steps as set forth in the claims. However, they are product-by-process limitations not as yet shown to produce a patentably distinct article. It is the examiner's position that the article of Sweeney/Frank/Holmquest is identical to or only slightly different than the claimed article prepared by the method of the claim, because both articles are formed from the same materials, having structural similarity. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or an obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). The burden has been shifted to the applicant to show unobvious differences between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289,291 (Fed. Cir. 1983). It is noted that if the applicant intends to rely on Examples in the specification or in a submitted Declaration to show non-obviousness, the applicant should clearly state how the Examples of the present

invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with Sweeney/Frank/Holmquest.

A preamble phrase "an automobile interior material" or "a construction sheet" is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (571) 272-1485. The examiner can normally be reached on Monday through Thursday, from 9:00 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1794

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Hai Vo/
Primary Examiner, Art Unit 1794